

CLAIMS:

I claim:

1. An information collection system comprising:

- (a) a primary analog video signal input line;
- (b) a primary analog video signal interface unit;
- (c) a screen image processing unit;
- (d) an information data storage unit;
- (e) an information display unit;

wherein said primary analog video signal interface unit receives a primary video signal from said primary analog video signal input line and sends to said screen image processing unit;

wherein said primary video signal contains a plurality of source screen images which contain number entries as numeric font image blocks, text entries as alphanumeric font image blocks, or image entries as bitmap image blocks;

wherein said screen image processing unit retrieves and selectively stores a number of said source screen images into said information data storage unit;

wherein said information display unit uses said source screen images to generate an output video display signal.

2. The information collection system of claim 1, wherein said primary video signal is from a local or remote video source, such as cable, broadcast, satellite, VCR, VCD, DVD, or other video producing or recording devices.

3. The information collection system of claim 1,
wherein said screen image processing unit stores said source screen images in
full screen form, partial screen form, or selected screen image blocks;
wherein said screen image processing unit stores said source screen images or
image blocks in full bitmap, simplified, modified, or compressed forms.

4. The information collection system of claim 1, wherein said screen
image processing unit selects the source screen images or image blocks to store
according to a set of selection criteria, which include broadcasting channels,
broadcasting timeslots, screen locations of image blocks, or special image
characteristics.

5. The information collection system of claim 1, wherein said screen
image processing unit analyzes said source screen images to determine whether
there is a significant content change in selected image areas and only stores the
distinguishable revisions of screen image contents.

6. The information collection system of claim 1 wherein said screen
image processing unit further performs image-processing or character-
recognition operations to transform selected parts of said source screen images
into numeric or alphabetic characters.

7. The information collection system of claim 1 wherein said video
display unit further overlays said source screen images onto a secondary analog
or digital video signal to generate the output video display signal.

8. An information collection system comprising:

- (a) a primary analog video signal input line;
- (b) a primary analog video signal interface unit;
- (c) a screen image processing unit;
- (d) an information data storage unit;
- (e) an information display unit;

wherein said primary analog video signal interface unit receives a primary video signal from said primary analog video signal input line and sends to said screen image processing unit;

wherein said primary video signal contains a plurality of source screen images which contain number entries as numeric font image blocks, text entries as alphanumeric font image blocks, or image entries as bitmap image blocks;

wherein said screen image processing unit analyzes said source screen images to retrieve the information data and stores into said information data storage unit;

wherein said screen image processing unit performs image-processing or character-recognition operations to transform selected parts of said source screen images into numeric or alphabetic characters;

wherein said information display unit uses the information data to generate an output video display signal.

9. The information collection system of claim 8, wherein said primary video signal is from a local or remote video source, such as cable, broadcast, satellite, VCR, VCD, DVD, or other video producing or recording devices.

10. The information collection system of claim 8, wherein said screen image processing unit stores the information data in characters, full screen images, partial screen images, or selected screen image blocks;

wherein said screen image processing unit stores the source screen images or image blocks in full bitmap, simplified, modified, or compressed forms.

11. The information collection system of claim 8, wherein said screen image processing unit selects the source screen images or image blocks to store according to a set of selection criteria, which include broadcasting channels, broadcasting timeslots, screen locations of image blocks, or special image characteristics.

12. The information collection system of claim 8 wherein said video display unit further overlays the information data onto a secondary analog or digital video signal to generate the output video display signal.

13. An information collection system comprising:

- (a) a primary analog video signal input line;
- (b) a primary analog video signal interface unit;
- (c) a screen image processing unit;

(d) an information data storage unit;

(e) an information display unit;

wherein said primary analog video signal interface unit receives a primary video signal from said primary analog video signal input line and sends to said screen image processing unit;

wherein said primary video signal contains a plurality of source screen images which contain number entries as numeric font image blocks, text entries as alphanumeric font image blocks, or image entries as bitmap image blocks;

wherein one or more of said screen images contain a plurality of special bitmap image patterns in selected screen areas;

wherein said screen image processing unit analyzes said special bitmap image patterns to extract coded information;

wherein said screen image processing unit stores said source screen images, image blocks, or coded information into said information data storage unit;

wherein said information display unit uses said source screen images, image blocks, or coded information to generate an output video display signal.

14. The information collection system of claim 13, wherein said primary video signal is from a local or remote video source, such as cable, broadcast, satellite, VCR, VCD, DVD, or other video producing or recording devices.

15. The information collection system of claim 13,

wherein said screen image processing unit stores said source screen images in full screen images, partial screen images, or selected screen image blocks; wherein said screen image processing unit stores the source screen images or image blocks in full bitmap, simplified, modified, or compressed forms.

16. The information collection system of claim 13, wherein said screen image processing unit selects the source screen images or image blocks to store according to a set of selection criteria, which include broadcasting channels, broadcasting timeslots, screen locations of image blocks, or special image characteristics.

17. The information collection system of claim 13 wherein said screen image processing unit further performs image-processing or character-recognition operations to transform selected parts of source screen images into numeric or alphabetic characters.

18. The information collection system of claim 13 wherein said video display unit further overlays said source screen images, image blocks, or coded information onto a secondary analog or digital video signal to generate the output video display signal.